

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS OTHERWISE SPECIFIED.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL OF TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE START OF ANY ASPHALT PAVING.
5. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY WITH 2-FOOT CONTOUR INTERVALS PREPARED BY POTOMAC AERIAL SURVEYS, INC. DATED FEBRUARY 2001, AND F-03-119.
6. THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A SURVEY PREPARED BY FREDERICK WARD ASSOCIATES, DATED JUNE 2001.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 24FB & 2411 WERE USED FOR THIS PROJECT.
8. THE SUBJECT PROPERTY IS ZONED "R-ED" IN ACCORDANCE WITH THE 10/06/13 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO SUBDIVISION AND CONSTRUCTION REGULATIONS EFFECTIVE OCT. 07, 2007 PER COUNCIL BILL 47-2007 & 48-2007. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATION.
9. STORMWATER MANAGEMENT FOR THIS PROJECT IS BEING PROVIDED BY ENVIRONMENTAL SITE DESIGN UTILIZING MICRO BIORETENTION FACILITIES (M-6) AND DRY WELLS (M-5) TO ACCOMMODATE THE TOTAL ESD VOLUME REQUIRED. SWM FACILITIES TO BE PRIVATELY OWNED AND MAINTAINED. REFER TO SWM STORMWATER DESIGN MANUAL (CHAPTER 3).
10. EXISTING UTILITIES ARE BASED ON ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
11. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
12. IN ACCORDANCE WITH DESIGN MANUAL - VOLUME 3, CHAPTER 2 - SECTION 2.9.B, PARKING IS REQUIRED AT TWO (2) SPACES PER UNIT OFF STREET PARKING TO INCLUDE GARAGE SPACE, DRIVEWAY AND PARKING PADS. GARAGES COUNT AS A FULL SPACE. SEE TABULATION HEREON.
13. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY 1-800-257-7777
 - VERIZON TELEPHONE COMPANY 1-800-743-0033
 - HOWARD COUNTY BUREAU OF UTILITIES 410-313-4900
 - AMT GABLE LOCATION DIVISION 1-800-292-1133
 - B.G.R.E. CO. CONSTRUCTION SERVICES 410-850-4620
 - B.G.R.E. CO. (EMERGENCY) 410-787-4620
 - STATE HIGHWAY ADMINISTRATION 410-685-0123
 - COLONIAL PIPELINE CO. 410-795-1390
14. IN ACCORDANCE WITH SECTION 128.0.A OF THE HOWARD COUNTY ZONING REGULATIONS:
 - A. MAX ENCROACHMENT INTO SETBACK FOR CORNICES, EAVES AND CANTEVERED BUILDING FEATURES WHICH DO NOT CONTAIN ANY FLOOR AREA OR EXTENSION OF INTERIOR LIVING SPACE IS: 3 FEET INTO ANY SETBACK.
 - B. MAX ENCROACHMENT INTO SETBACK FOR BAY WINDOWS, WINDOW WELLS, ORIELS, VESTIBULES, BALCONIES AND CHIMNEYS IS: 4 FEET INTO ANY SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS, PROVIDED THE FEATURE HAS A MAXIMUM WIDTH OF 16 FEET AS MEASURED HORIZONTALLY ALONG THE WALL FROM WHICH THE FEATURE EXTENDS.
 - C. MAX ENCROACHMENT INTO SETBACK FOR EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GROUND LEVEL EXCLUDING THOSE ATTACHED TO A PORCH OR DECK (SEE E) IS: 10 FEET INTO A FRONT SETBACK OR A SETBACK FROM A PROJECT BOUNDARY ZONING DISTRICT, 16 FEET INTO A REAR SETBACK, 4 FEET INTO A SIDE SETBACK OR A REQUIRED DISTANCE BETWEEN BUILDINGS.
 - D. MAX ENCROACHMENT INTO SETBACK FOR OPEN OR ENCLOSED PORCHES AND DECKS, AND THE STAIRWAYS OR RAMPS ATTACHED THERETO IS: 10 FEET INTO A FRONT OR REAR SETBACK, A SETBACK FROM A PROJECT BOUNDARY, A SETBACK FROM A DIFFERENT ZONING DISTRICT, OR A REQUIRED DISTANCE BETWEEN BUILDINGS.
15. THERE IS NO 100-YR FLOODPLAIN, STREAMS, WETLANDS, OR THEIR BUFFERS WITHIN LIMIT OF DISTURBANCE.
16. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
17. WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC AND PROVIDED THROUGH CONTRACT NO. 14-4054-D.
18. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THE SUBJECT PROPERTY.
19. THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
20. NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THE PROPERTY.
21. LANDSCAPING FOR LOTS 30-32 IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$40,750 FOR THE REQUIRED 13 SHADE TREES AND 5 SHRUBS SHALL BE PROVIDED WITH THE GRADING PERMIT FOR THIS PLAN.
22. ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES AND ARE BASED UPON EXISTING AND PROPOSED CONTOURS.
23. ALL SINGLE FAMILY DWELLINGS WILL HAVE A MINIMUM OF A 1-1/2" WHC WITH A 1" OUTSIDE METER SETTING.
24. DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - a) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENTIAL UNIT).
 - b) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING, (1-1/2" MIN).
 - c) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45-FOOT TURNING RADIUS.
 - d) STRUCTURE (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - e) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - f) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
25. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENCING CONSTRUCTION.
26. ALL DRIVEWAY APRONS TO BE PER HOWARD COUNTY STANDARD DETAIL NO. R-6.06.
27. OLD COLUMBIA PIKE IS A SCENIC ROAD.
28. THIS PROPERTY IS NOT LOCATED IN A HISTORIC DISTRICT.
29. A NOISE WALL IS NOT REQUIRED FOR THIS PROJECT.
30. APFO TRAFFIC REQUIREMENTS WERE ADDRESSED IN CONJUNCTION WITH F-03-119.
31. EXISTING STRUCTURES ON LOT 33 ARE TO REMAIN. NO ADDITIONS OR EXPANSIONS ARE ALLOWED UNLESS IN COMPLIANCE WITH THE APPLICABLE ZONING REGULATIONS. THE PROPERTY IS LISTED IN THE HOWARD COUNTY HISTORIC SITES INVENTORY AS SITE NUMBER 194-823, THE NELSON HOUSE.
32. THIS PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES: WP-03-26 (APPR. 10-25-02), F-03-119, S-01-09, PB CASE# 352 (APPR. 06-13-01), P-02-14.
33. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING AND GRADING PERMITS.
34. A FOREST STAND DELINEATION PLAN WAS PREPARED FOR THIS SITE BY FREDERICK WARD ASSOCIATES, DATED FEBRUARY, 2001, AND APPROVED UNDER F-03-119.
35. FOREST CONSERVATION PLAN PREPARED BY FREDERICK WARD ASSOCIATES, DATED OCTOBER 2002 AND APPROVED UNDER F-03-119.
36. FOR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE PIPE STEM AND THE ROAD RIGHT-OF-WAY ONLY AND NOT ON TO THE PIPE STEM DRIVEWAY.
37. SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OF WORK TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3" INCHES IN CALIPER AND INSTALLED AS REQUIRED BY THE LANDSCAPE MANUAL.
38. LOTS 30-32 WILL UTILIZE A USE-IN-COMMON DRIVEWAY. A USE-IN-COMMON MAINTENANCE AGREEMENT FOR THE SHARED DRIVEWAY WAS RECORDED SIMULTANEOUSLY WITH F-03-119, PLAT# 16426 ON 12-24-03.
39. FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE FOR LOTS 30-32 ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ON TO THE PIPESTEM LOT DRIVEWAY.
40. THE MAINTENANCE AGREEMENT FOR THE USE-IN-COMMON DRIVEWAY IS RECORDED IN LIBER 7947 AT FOLIO 317 AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND.
41. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED BY HOWARD COUNTY BUREAU OF HIGHWAYS AND PLACED AT THE DRIVEWAY ACCESS POINT ONTO NELSON HOUSE ROAD AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-4752 FOR DETAILS AND COST ESTIMATES.
42. THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 RESIDENTIAL INFILL DEVELOPMENT OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
43. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET IN TO ANY SETBACKS, PORCHES, OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
44. IN ACCORDANCE WITH APPROVED F-03-119 STORM WATER MANAGEMENT FOR LOTS 30-32 TO BE PROVIDED BY RAIN GARDENS. THIS PLAN INDICATES MICRO BIO RETENTION (M-6), AND DRYWELLS (M-5) TO PROVIDE ENVIRONMENTAL SITE DESIGN TO THE MAXIMUM EXTENT PRACTICAL FOR LOTS 30-32 AND THE USE IN COMMON DRIVEWAY.
45. PB CASE NO. 352-01-16 IS APPROVED 12/01/16 BY THE PLANNING BOARD FOR LOT 30-32.
46. 100-YR STORMWATER MANAGEMENT FOR LOTS 30-32 IS ADDRESSED BY 100-YR MANAGEMENT AND OVERMANAGEMENT PROVIDED BY THE EXISTING FLOOD (F-02-119)

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 12/21/16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Al Chubb
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2-1-17
Kurt DeLuca
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 2-7-17
Walter Griffin
DIRECTOR
DATE: 2-8-17

SITE ANALYSIS DATA

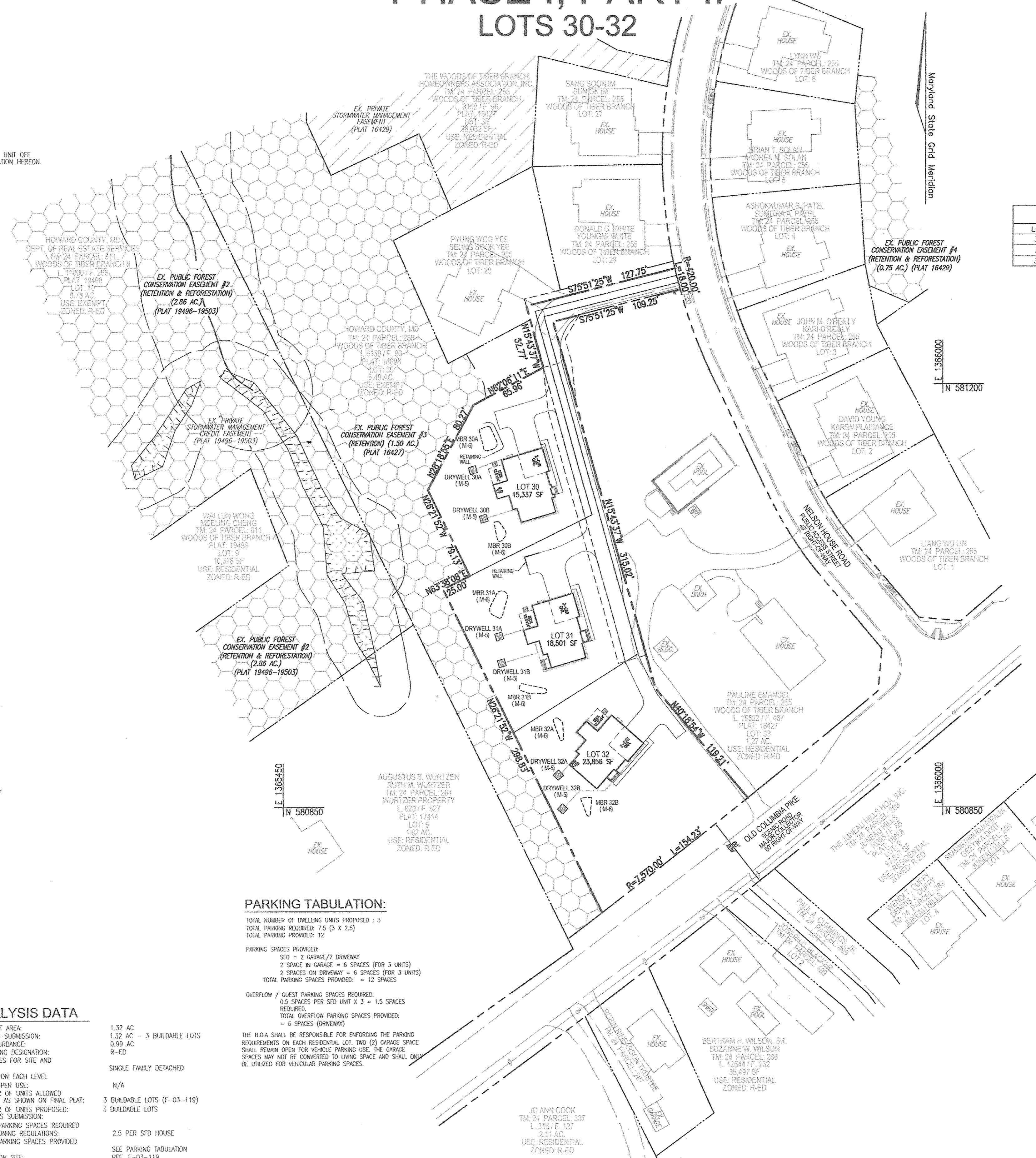
- A. TOTAL PROJECT AREA: 1.32 AC
- B. AREA OF PLAN SUBMISSION: 1.32 AC - 3 BUILDABLE LOTS
- C. LIMIT OF DISTURBANCE: 0.89 AC
- D. PRESENT ZONING DESIGNATION: R-ED
- E. PROPOSED USES FOR SITE AND STRUCTURES: SINGLE FAMILY DETACHED
- F. FLOOR SPACE ON EACH LEVEL OF BUILDING PER USE: N/A
- G. TOTAL NUMBER OF UNITS ALLOWED FOR PROJECT AS SHOWN ON FINAL PLAT: 3 BUILDABLE LOTS (F-03-119)
- H. TOTAL NUMBER OF UNITS PROPOSED ON THIS SUBMISSION: 3 BUILDABLE LOTS
- I. NUMBER OF PARKING SPACES REQUIRED BY HOWARD COUNTY REGULATIONS: 2.5 PER SFD HOUSE
- J. NUMBER OF PARKING SPACES PROVIDED ON SITE: SEE PARKING TABULATION REF. F-03-119
- K. OPEN SPACE ON SITE: REF. F-03-119
- L. AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS: N/A
- M. BUILDING COVERAGE OF SITE: SEE NOTE 32
- N. APPLICABLE DPZ FILE REFERENCES: TAX MAP 24, BLOCK 18, PARCEL 255 2ND ELECTION DISTRICT
- O. ANY OTHER INFORMATION WHICH MAY BE RELEVANT:

PARKING TABULATION:

TOTAL NUMBER OF DWELLING UNITS PROPOSED: 3
TOTAL PARKING REQUIRED: 7.5 (3 x 2.5)
TOTAL PARKING PROVIDED: 12
PARKING SPACES PROVIDED:
SFD = 2 GARAGE/2 DRIVEWAY
2 SPACES IN GARAGE = 6 SPACES (FOR 3 UNITS)
2 SPACES ON DRIVEWAY = 6 SPACES (FOR 3 UNITS)
TOTAL PARKING SPACES PROVIDED: = 12 SPACES
OVERFLOW / GUEST PARKING SPACES REQUIRED:
0.5 SPACES PER SFD UNIT x 3 = 1.5 SPACES REQUIRED.
TOTAL OVERFLOW PARKING SPACES PROVIDED:
= 6 SPACES (DRIVEWAY)
THE HOA SHALL BE RESPONSIBLE FOR ENFORCING THE PARKING REQUIREMENTS ON EACH RESIDENTIAL LOT. TWO (2) CHANCE SPACES SHALL REMAIN OPEN FOR VEHICLE PARKING USE. THE GARAGE SPACES MAY NOT BE CONVERTED TO LIVING SPACE AND SHALL ONLY BE UTILIZED FOR VEHICULAR PARKING SPACES.

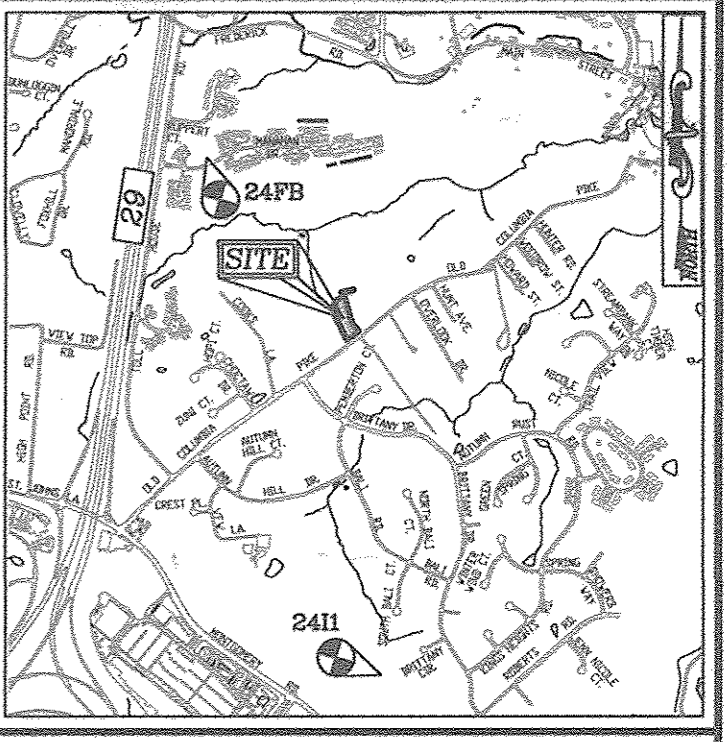
COVER SHEET
SCALE: 1"=50'
25' 0' 50'

**SITE DEVELOPMENT PLAN
THE WOODS OF TIBER BRANCH
PHASE I, PART II
LOTS 30-32**



MINIMUM LOT SIZE CHART

LOT	GROSS AREA	PIPESTEM AREA	NET AREA	MIN. LOT SIZE
30	15,337 SF	1,046 SF	14,291 SF	6,000 SF
31	18,501 SF	1,742 SF	16,759 SF	6,000 SF
32	23,856 SF	2,394 SF	21,462 SF	6,000 SF



LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- EXISTING WETLANDS
- EXISTING WETLAND BUFFER
- EXISTING STREAM BUFFER
- EXISTING STREAM
- EX. PUBLIC FOREST CONSERVATION EASEMENT RETENTION PLAT# 16427
- EX. PUBLIC FOREST CONSERVATION EASEMENT RETENTION PLAT# 19496-19503
- EX. PRIVATE STORMWATER MANAGEMENT EASEMENT

STORMWATER MANAGEMENT PRACTICE CHART

LOT/PARCEL #	ADDRESS	FACILITY NAME & NUMBER	PRACTICE TYPE/QUANTITY	PUBLIC	PRIVATE	MAINTENANCE RESPONSIBILITY
Lot 30	3923 NELSON HOUSE ROAD	SWM# 30 A & B	Micro BioRetention (M-6), Drywell (M-5)	X	X	Owner
Lot 31	3919 NELSON HOUSE ROAD	SWM# 31 A & B	Micro BioRetention (M-6), Drywell (M-5)	X	X	Owner
Lot 32	3915 NELSON HOUSE ROAD	SWM# 32 A & B	Micro BioRetention (M-6), Drywell (M-5)	X	X	Owner

SHEET INDEX

COVER SHEET	DESCRIPTION	SHEET NO.
1	LAYOUT PLAN AND HOUSE TYPES	2 OF 6
2	GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN AND SOILS MAP	3 OF 6
3	GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES AND DETAILS	4 OF 6
4	SWM DRAINAGE AREA MAP; SWM NOTES AND DETAILS	5 OF 6
5	LANDSCAPE AND RAIN GARDEN PLANTING PLAN, NOTES, AND DETAILS	6 OF 6

OWNER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
410-480-0023

DEVELOPER/BUILDER
THE WOODS OF TIBER BRANCH, LLC
C/O TRINITY QUALITY HOMES
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
410-480-0023

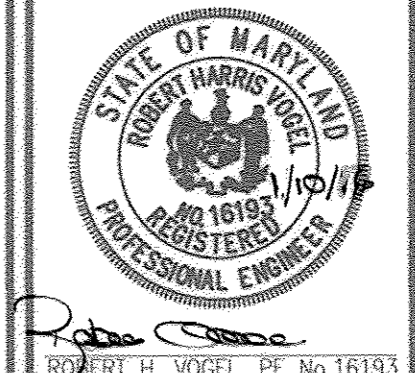
NO.	REVISION	DATE
2	REVISE GRADING LOTS 31 AND 32	12/4/17
1	REVISE GRADING LOT 30	11/9/17

**SITE DEVELOPMENT PLAN
COVER SHEET
THE WOODS OF TIBER BRANCH
PHASE I, PART II
LOTS 30-32**

PARCEL: 255
TAX MAP: 24 GRID: 18
2ND ELECTION DISTRICT

ZONED: R-ED
USE: RESIDENTIAL
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961



PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: JMR/KG
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: 16-11

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-27-2018.

1 SHEET OF 6

ADDRESS CHART

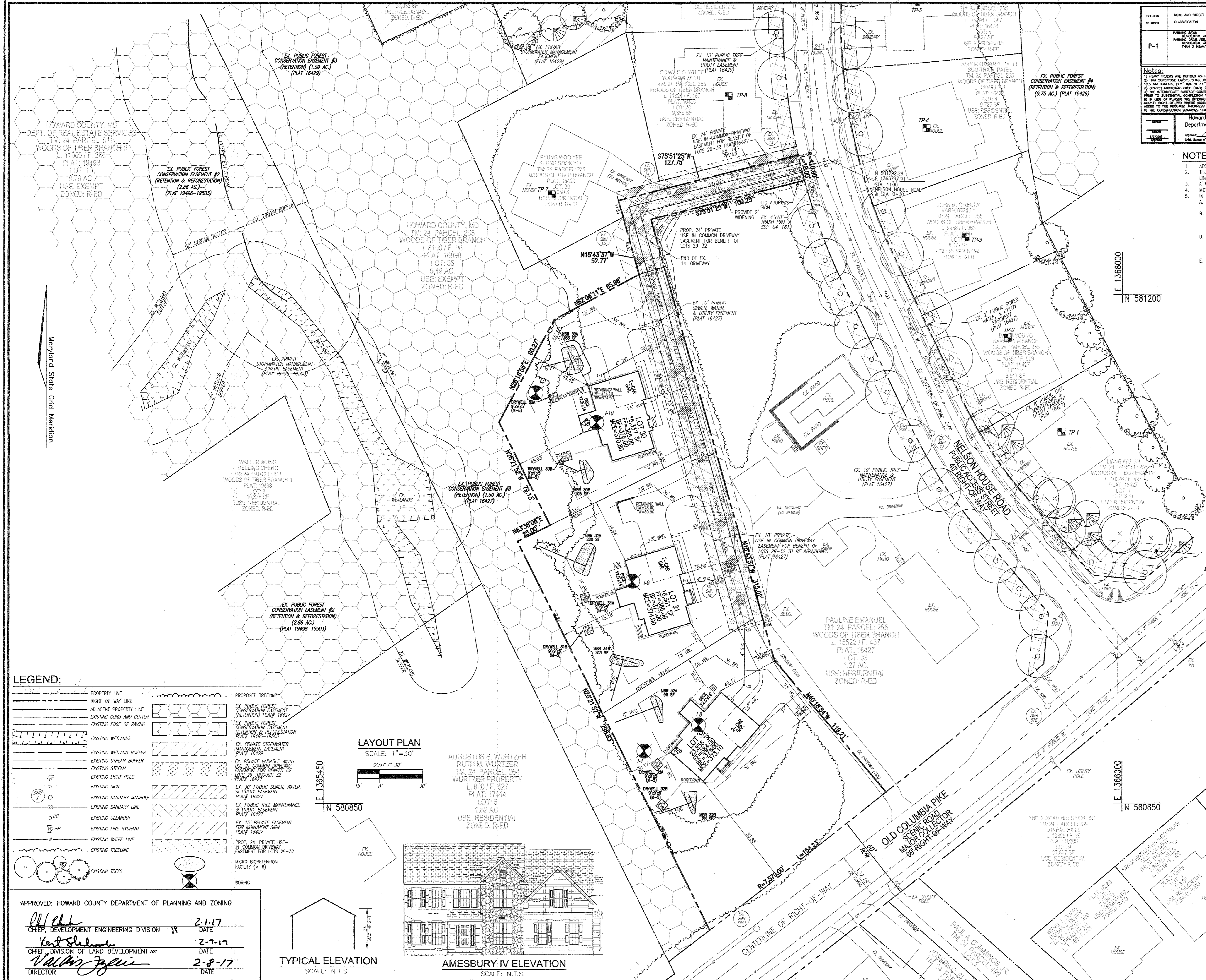
LOT NO	STREET ADDRESS
30	3923 NELSON HOUSE ROAD
31	3919 NELSON HOUSE ROAD
32	3915 NELSON HOUSE ROAD

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
THE WOODS OF TIBER BRANCH PHASE I, PART II	N/A	255

PLAT OR L/Y	GRID NO.	ZONING	TAX MAP	ELECT. DIST.	CENSUS TR.
PLAT #16427	F-03-119	R-ED	24	2ND	6028.00

WATER/SEWER: CONT. 14-4054-D

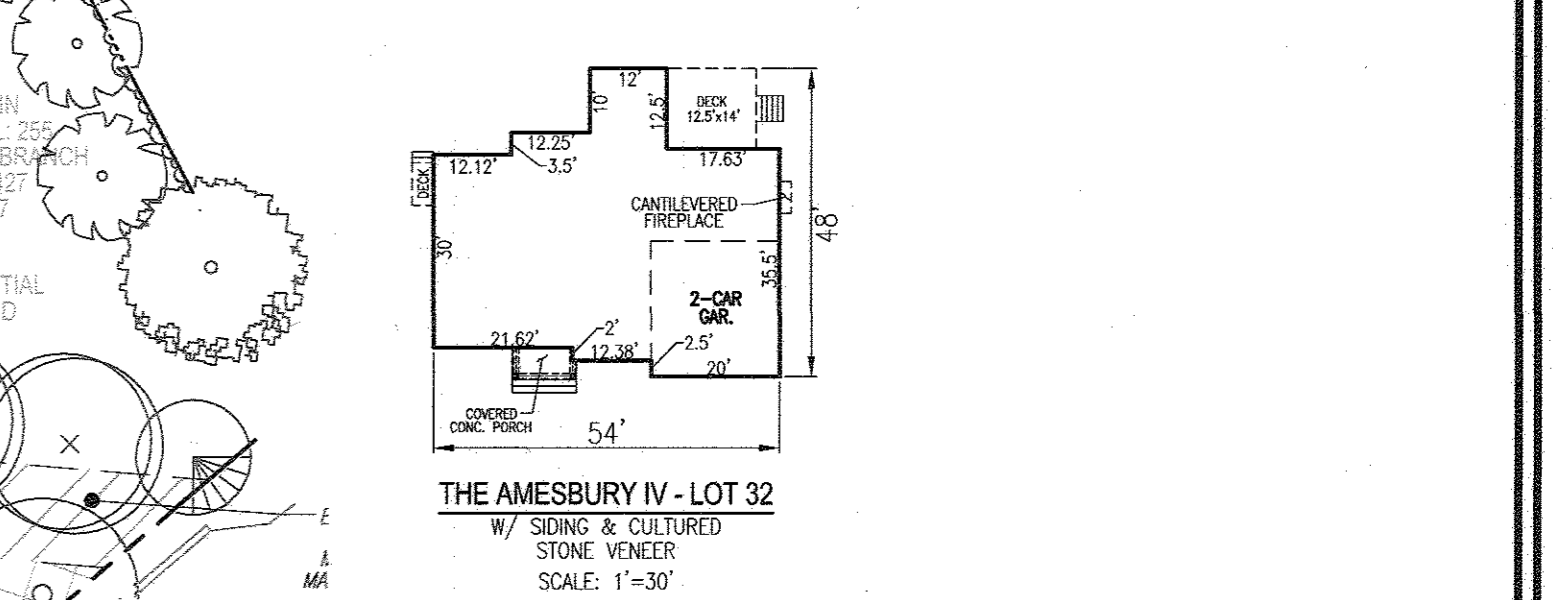
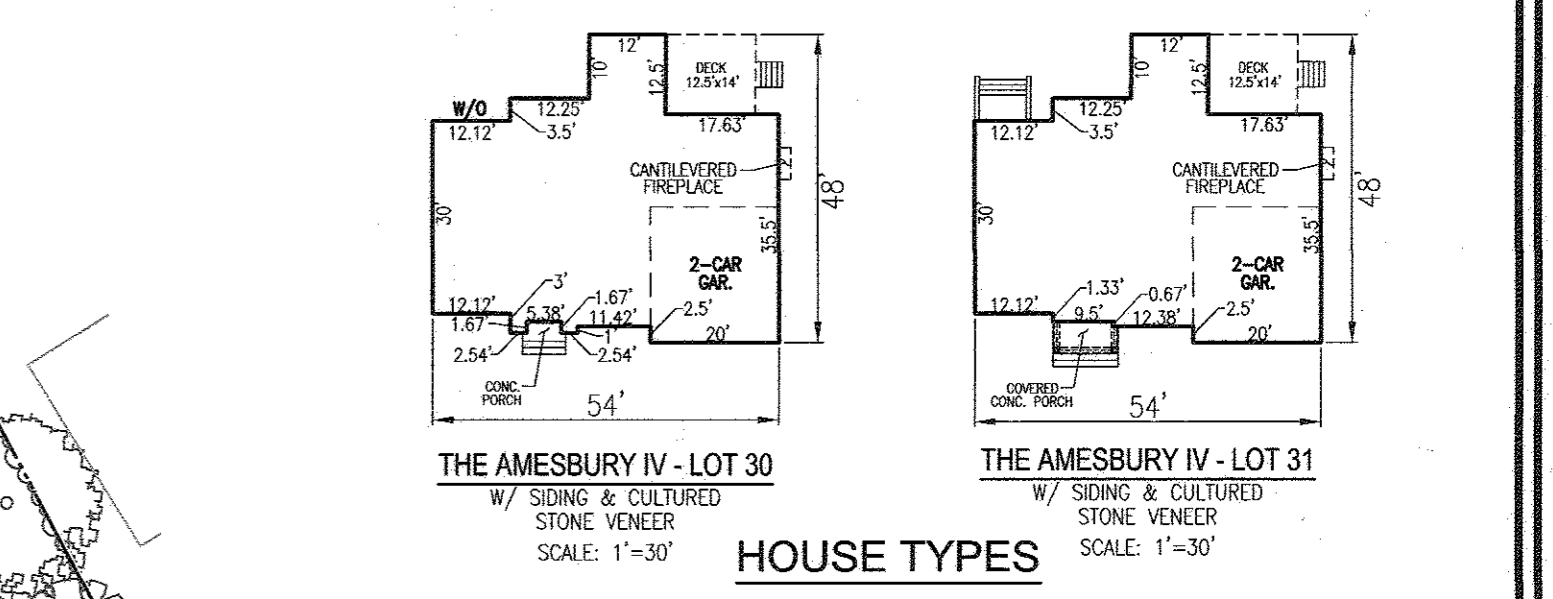


SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)					
		3 TO 4	5 TO 7	7 TO 9	10 TO 15	15 TO 20	20 TO 25
P-1	PAVING MATERIAL (INCHES)	MIN HMA WITH CURB					
		MIN HMA WITH CONSTANT CURB					
		HMA SUPERFINE INTERMEDIATE SURFACE (1.5" MIN TO 3.0" MAX) AND 8.5" MIN SURFACE (1.0" MIN TO 2.0" MAX)					
		HMA SUPERFINE INTERMEDIATE SURFACE (2.0" MIN TO 3.0" MAX) AND 8.5" MIN SURFACE (1.0" MIN TO 2.0" MAX)					

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)					
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		HMA SUPERFINE INTERMEDIATE SURFACE (2.0" MIN TO 3.0" MAX) AND 8.5" MIN SURFACE (1.0" MIN TO 2.0" MAX)					

NOTES:

- HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARAGE TRUCKS.
- HMA SUPERFINE LAYERS SHALL BE PLACED BY APPROVED METHOD: 110 MM MAX SIZE (2.0" MIN TO 4.0" MAX).
- GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED TO 4" MAX COMPACTED THICKNESS LAYERS.
- INTERMEDIATE SURFACE COURSE LAYERS MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSEQUENT CONSTRUCTION AND INSPECTION.
- IN USE OF PLACING THE INTERMEDIATE SURFACE COURSE LAYERS FOR COMMERCIAL/INDUSTRIAL ENTRANCE AREAS WITHIN THE COUNTY ROADWAY, THE INTERMEDIATE SURFACE COURSE LAYERS SHALL BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED TO BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
- THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY.



LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVING
- EXISTING WETLANDS
- EXISTING WETLAND BUFFER
- EXISTING STREAM BUFFER
- EXISTING STREAM
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREES

LAYOUT PLAN
SCALE: 1"=30'

TYPICAL ELEVATION
SCALE: N.T.S.

AMESBURY IV ELEVATION
SCALE: N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 2-1-17
 Chief, Division of Land Development: *[Signature]* 2-7-17
 Director: *[Signature]* 2-8-17

OWNER
TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
410-480-0023

DEVELOPER/BUILDER
THE WOODS OF TIBER BRANCH, LLC
C/O TRINITY QUALITY HOMES
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
410-480-0023

NO. REVISION DATE

SITE DEVELOPMENT PLAN
LAYOUT PLAN AND HOUSE TYPES
THE WOODS OF TIBER BRANCH
PHASE I, PART II
LOTS 30-32

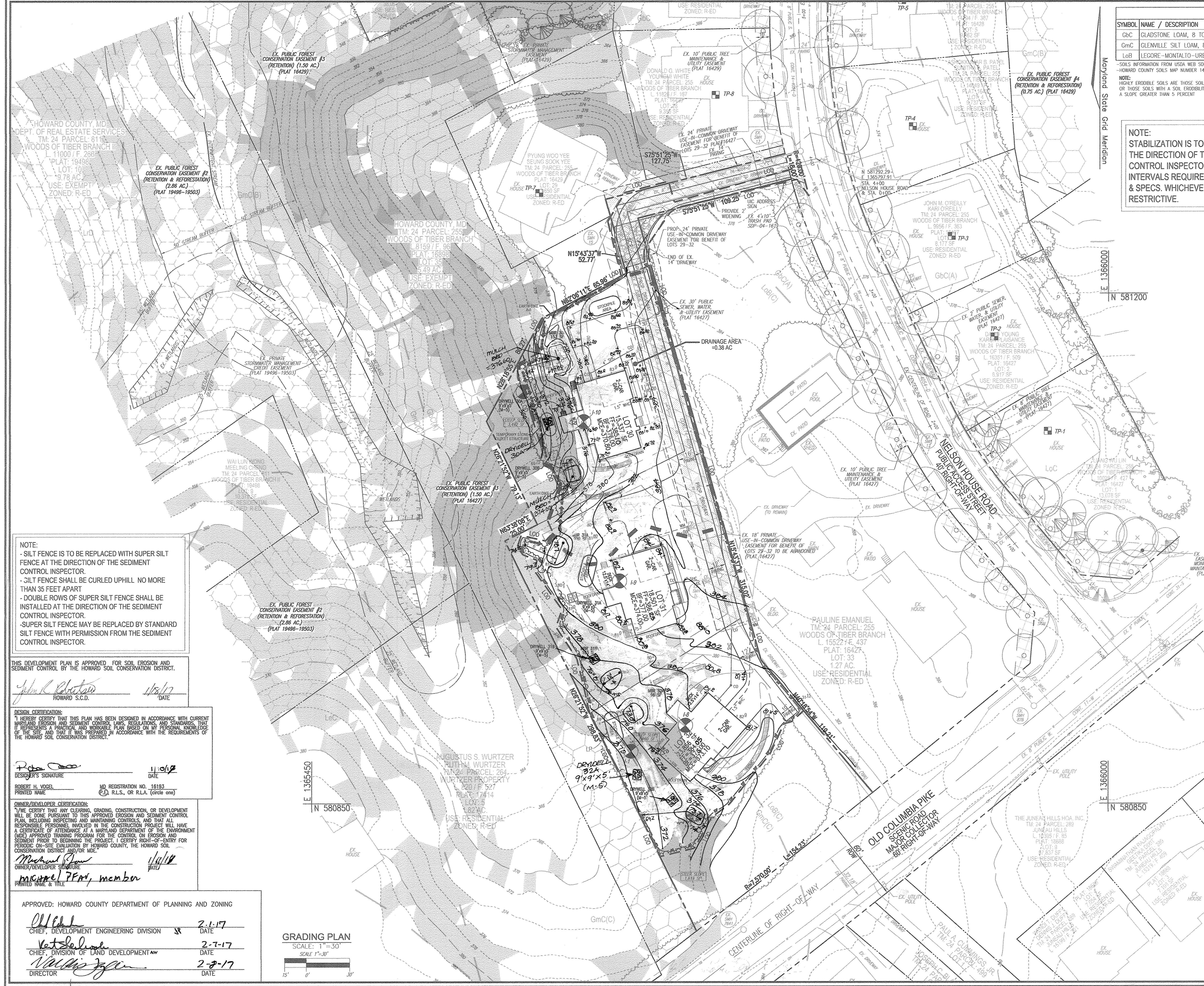
PARCEL: 255
TAX MAP: 24-000-0018
2ND ELECTION DISTRICT

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TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18183, EXPIRATION DATE: 08-27-2018

DESIGN BY: RHV
DRAWN BY: JMR/KG
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: 16-11

2 SHEET OF 6



SOILS LEGEND				
SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	ERODIBLE
GbC	GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES	A	0.28	NO
GmC	GLENVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES	C	0.43	YES
LoB	LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	C	N/A	NO

NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

NOTE:
STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS. WHICHEVER IS MORE RESTRICTIVE.

LEGEND:	
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	EXISTING DITCH AND GUTTER
	EXISTING EDGE OF PAVING
	EXISTING WETLANDS
	EXISTING WETLAND BUFFER
	EXISTING STREAM BUFFER
	EXISTING STREAM
	EXISTING LIGHT POLE
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING TREE LINE
	EXISTING TREES
	PROPOSED TREE LINE
	EX. PUBLIC FOREST CONSERVATION EASEMENT (RETENTION) PLAT 16427
	EX. PUBLIC FOREST CONSERVATION EASEMENT (RETENTION & RESTORATION) PLAT 1948-19503
	EX. PRIVATE STORMWATER MANAGEMENT EASEMENT PLAT 16427
	EX. PRIVATE VARIABLE WIDTH USE-IN-COMMON DRIVEWAY EASEMENT FOR BENEFIT OF LOTS 20 THROUGH 32 PLAT 16427
	EX. PUBLIC SEWER, WATER, & UTILITY EASEMENT PLAT 16427
	EX. PUBLIC TREE MAINTENANCE & UTILITY EASEMENT PLAT 16427
	EX. 15' PRIVATE EASEMENT FOR MONUMENT SIGN PLAT 16427
	PROP. 24' PRIVATE USE-IN-COMMON DRIVEWAY EASEMENT FOR LOTS 29-32
	MICRO DISTRIBUTION FACILITY (M-D)
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED SUPER SALT FENCE
	PROPOSED DIVERSION FENCE
	PROPOSED EARTH DIKE (A-3)
	PROPOSED LIMIT OF DISTURBANCE
	STEEP SLOPE (S-25%)
	STABILIZED CONSTRUCTION ENTRANCE
	BORING

NOTE: STOCKPILING WILL BE PERMITTED ON EACH LOT ONLY.

OWNER: TRINITY HOMES MARY LAND, LLC
DEVELOPER/BUILDER: THE WOODS OF TIBER BRANCH, LLC

NOTE:
- SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- SILT FENCE SHALL BE CURLED UPHILL. NO MORE THAN 35 FEET APART.
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- SUPER SILT FENCE MAY BE REPLACED BY STANDARD SILT FENCE WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Mark R. Chetani
HOWARD S.C.D. DATE: 1/8/17

DESIGN CERTIFICATION:
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert H. Vogel
DESIGNER'S SIGNATURE DATE: 11/01/16
ROBERT H. VOGEL NO. REGISTRATION NO. 16193 (P.E., R.L.S., OR R.L.A. (circle one))

OWNER/DEVELOPER CERTIFICATION:
I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

Michael P. Foy
OWNER/DEVELOPER SIGNATURE DATE: 1/10/17
MICHAEL P. FOY, member

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chadwick 2-1-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Vetzel 2-7-17
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Valdes 2-8-17
DIRECTOR DATE

GRADING PLAN
SCALE: 1"=30'
SCALE 1"=30'

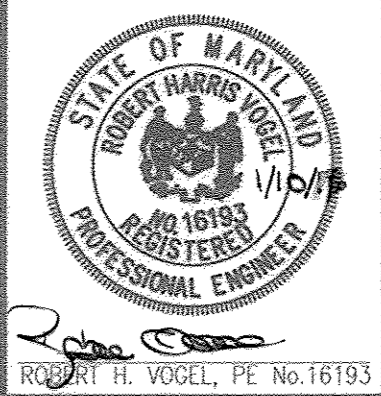
NO.	REVISION	DATE
2	REVISE GRADING LOTS 31 AND 32	12/14/17
1	REVISE GRADING LOT 30	11/9/17

SITE DEVELOPMENT PLAN
GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN AND SOILS MAP
THE WOODS OF TIBER BRANCH
PHASE I, PART II
LOTS 30-32

PARCEL: 255
TAX MAP: 24 GRID: 18
2ND ELECTION DISTRICT

ZONE: R-ED
USE: RESIDENTIAL
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961



DESIGN BY: RHV
DRAWN BY: JMS/KG
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: 16-11

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly licensed PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 08-27-2018

3 SHEET OF 6



SWM DRAINAGE AREA MAP
SCALE: 1"=30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Clark 2-1-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kate Land 2-7-17
CHIEF, DIVISION OF LAND DEVELOPMENT

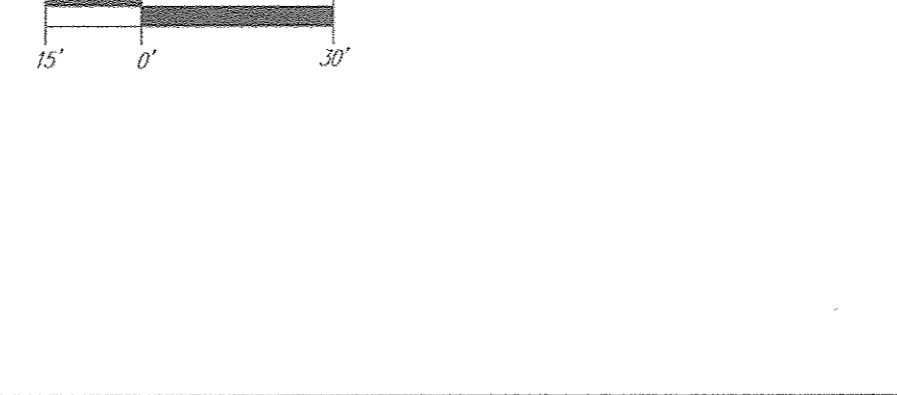
William J. J... 2-8-17
DIRECTOR

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	ERODIBLE
cbC	GLADSTONE LOAM, 8 TO 15 PERCENT SLOPES	A	0.28	NO
GmC	GLENVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES	C	0.43	YES
loB	LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	C	N/A	NO

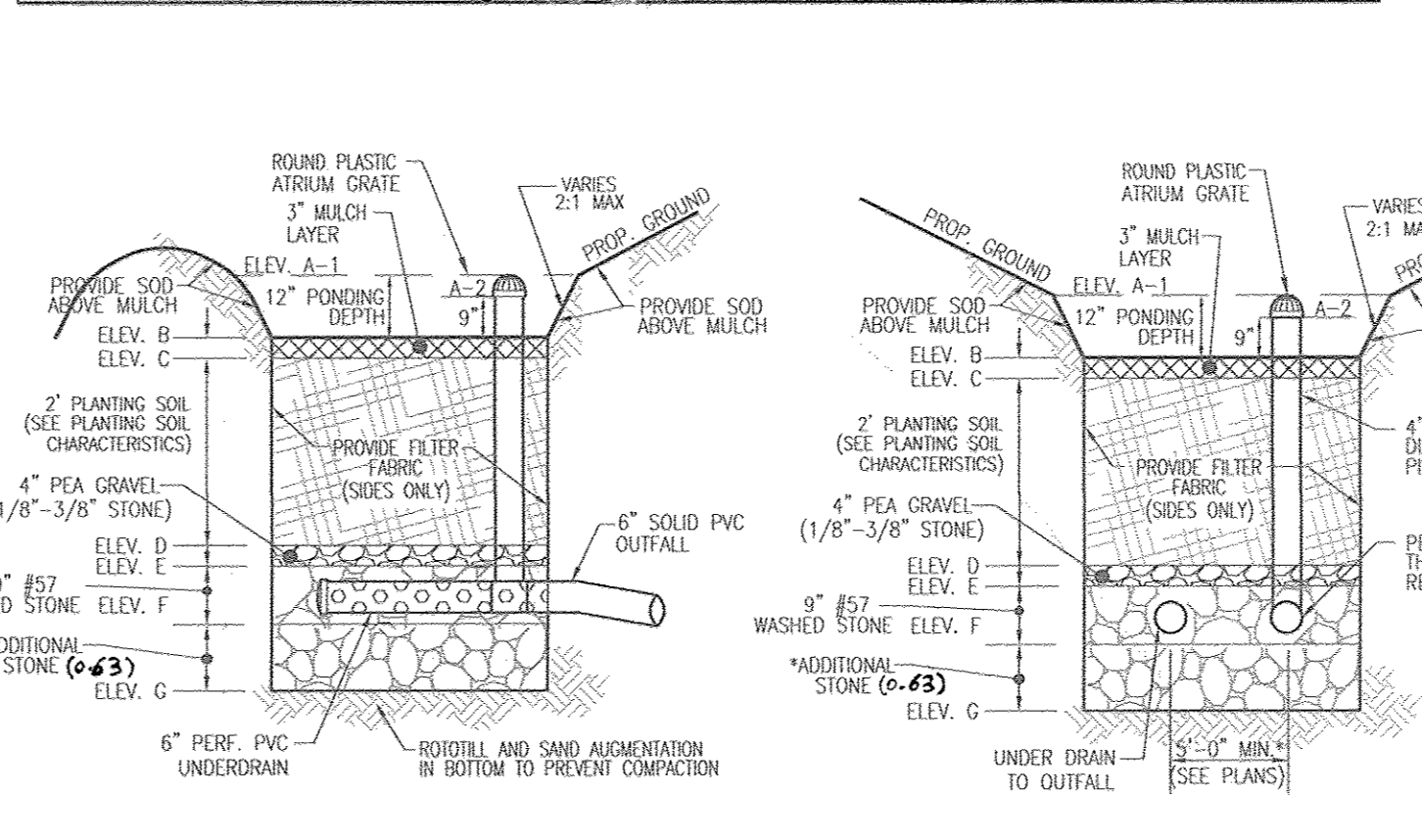
SOILS LEGEND

NOTE: SOILS INFORMATION FROM USDA WEB SOIL SURVEY WEBSITE - HOWARD COUNTY SOILS MAP NUMBER 14 - ELLICOTT CITY SE

NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT



MBR Facility	TOP REV A-2	Ponding Depth (ft)	Ponding Elevation Elev. A-1	Top of Mulch Elev. B	Bottom of Mulch Elev. C	Depth of Plant Mix	Bottom of Plant Elev. D	Bottom of Pea Gravel Elev. E	Depth of Stone (ft.)
30-A	377.00	371.95	1.00	371.60	376.00	2.00	374.35	374.02	0.75
30-B	379.00	374.75	1.00	375.00	379.50	2.00	377.75	377.42	0.75
31-A	379.70	379.45	1.00	379.70	379.45	2.00	379.45	379.12	0.75
31-B	376.00	376.15	1.00	376.40	375.4	2.00	373.15	372.82	0.75
32-A	375.00	374.25	1.00	374.60	379.00	2.00	371.55	371.22	0.75
32-B	374.00	374.45	1.00	374.70	373.70	2.00	371.45	371.12	0.75

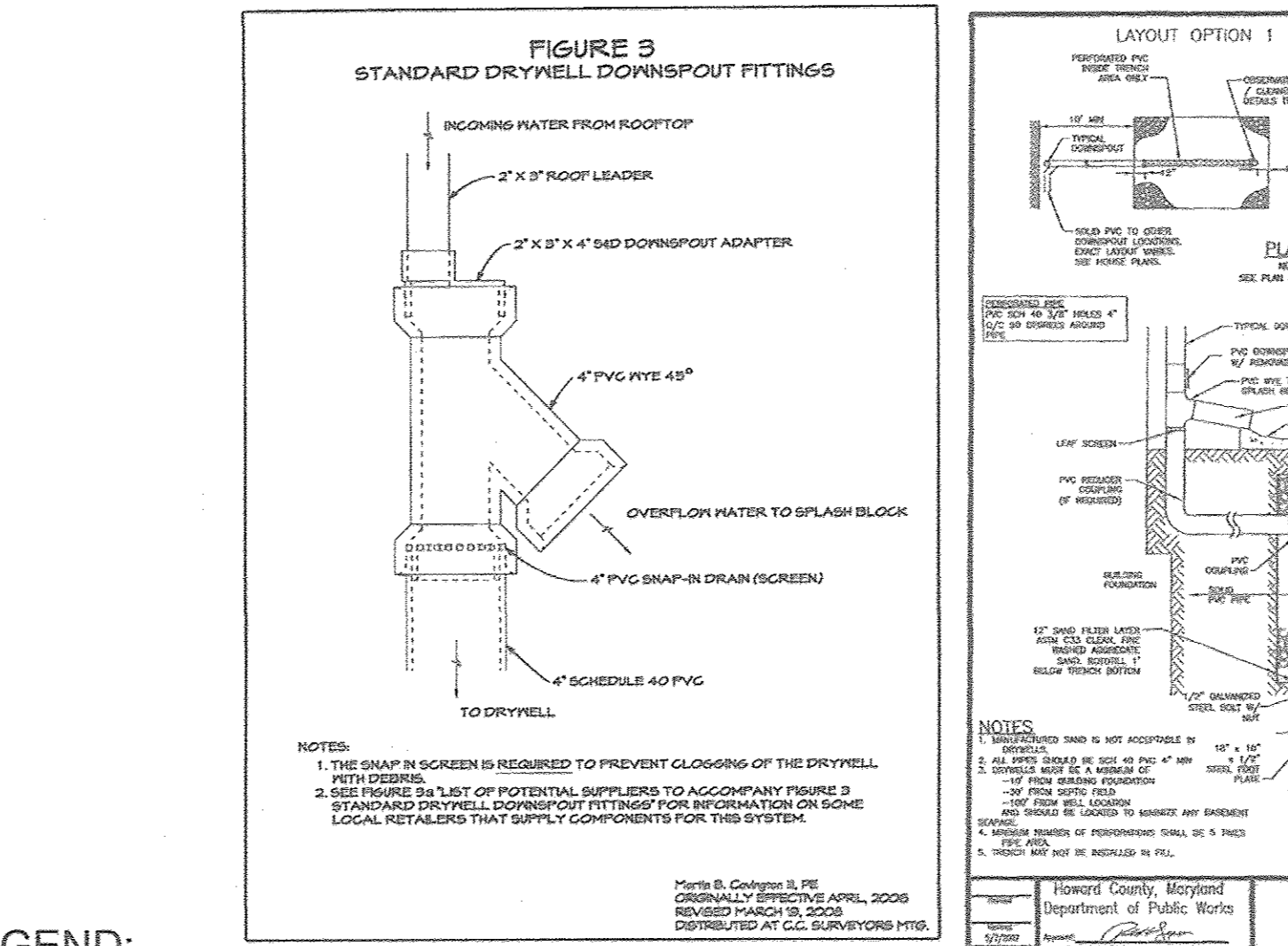


MICRO BIORETENTION (UNDERDRAIN) NOT TO SCALE
MICRO BIORETENTION (OVERFLOW) NOT TO SCALE

- MICRO BIORETENTION NOTES:**
- ONLY THE SIDES OF MICRO BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO BIORETENTION WILL CAUSE THE MULCH TO FAIL AND THEREFORE SHALL NOT BE INSTALLED.
 - WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (#4) OR SMALLER GALVANIZED HAWKARD CLOTH. SEE APPENDIX B.4.C.
 - PROVIDE 2" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BOSS. (SEE PLANS)

- OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-8), RAIN GARDENS (M-7), BIORETENTION SWALE (M-6) AND ENHANCED FILTERS (M-9)**
- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME 8, TABLE 4.4.1 AND 2.
 - THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAMPS AND WIRES.
 - THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
 - THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.
 - SHOULD SYSTEM FAIL, AND UPON DETERMINING FAILURE OF SYSTEM IS DUE TO PLANTING MEDIA, ALL PLANT MATERIAL WITHIN THE UNIT, INCLUDING TREES, SHALL BE REMOVED AND REPLACED.

- OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER DRY WELLS (M-5)**
- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
 - WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH BRIMMING.
 - A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
 - WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
 - THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
 - ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



LEGEND:

PROPERTY LINE	EXISTING TREE LINE	EXISTING TREES	EXISTING TRENCH
RIGHT-OF-WAY LINE	PROPOSED TREE LINE	PROPOSED TRENCH	EXISTING CONTOUR
ADJACENT PROPERTY LINE	EXISTING WETLANDS	EXISTING WETLAND BUFFER	SOILS
EXISTING CURB AND GUTTER	EXISTING STREAM	EXISTING STREAM BUFFER	PROPOSED CONTOUR
EXISTING EDGE OF PAVING	EXISTING LIGHT POLE	EXISTING SKIN	PROPOSED SPOT ELEVATION
EXISTING SANITARY MANHOLE	EXISTING CLEANOUT	EXISTING FIRE HYDRANT	DRAINAGE AREA DIVIDE
EXISTING WATER LINE	EXISTING WATER LINE	EXISTING WATER LINE	AREA OF IMPERVIOUS TO MICRO-BIORETENTION

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION GARDENS

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES, AND OTHER MATERIALS OR SUBSTANCES SHALL BE MOVED OR GRABBED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HURDLE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERBERIS, QUACROACH, JOHNSON GRASS, OR OTHER NOxious WEEDS AS SPECIFIED UNDER COMMON HURDLES.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LAWS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES. SUBSTITUTE METHODS NOT SPECIFICALLY CONTRIBUTE TO DESIGN FAILURE.

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND/OR OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SUBORDINANCE TO A UNIFORM THICKNESS OF 2" TO 3" SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
• PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM 756, TYPE PS 28, OR HASHD-10-278) IN A GRAVEL LAYER. THE PERFORATED MATERIAL IS SLOTTED, 1/2" HOLES (E.G., PVC OF HOLES).
• PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER FOOT. PIPE SHALL BE WRAPPED WITH A 1/4" (#4) OR (#4) GALVANIZED HAWKARD CLOTH.
• GRAVEL - THE GRAVEL LAYER (1/8"-3/8" STONE) SHALL BE AT LEAST 2" THICK ABOVE AND BELOW THE UNDERDRAIN.
• THE MANHOLE COVER SHALL BE AT A MINIMUM 6" SLIDE.
• A 1/2" MINIMUM PERFORATED OPERATION WELL SHALL BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT POINT AND IMPROVE PERFORMANCE OF THE FILTER.
• A 1/4" LAYER OF PEA GRAVEL (1/8"-3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MOUNDING OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Notes
Planting Soil	See Appendix A, Table A.4	Planting soil site-specific
Filtering media	1/8"-3/8" stone (90%+), 2" to 4" deep	100% clean, washed, angular, 100%+ crushed (15-20%); 100%+ clean, washed, angular, 100%+ crushed (90%)
Organic content	Min. 10% by dry weight (ASTM D 4957)	aged 6 months, minimum on pile or wood chips
Mulch	ASTM D 4957	aged 6 months, minimum on pile or wood chips
Perforated pipe	per spec. ASTM D 4957	1/2" to 3/4" diameter
Manhole cover	conform to spec. washed, angular, 100%+ crushed (15-20%); 100%+ clean, washed, angular, 100%+ crushed (90%)	1/2" to 3/4" diameter
Gravel	ASTM M 43	1/2" to 3/4" diameter
Underdrain piping	4" Type PS 28 or ASTM D 3218	Shaded or perforated pipe, 1/2" hole, 6" on center, 4 holes per foot, minimum of 3" of gravel over pipe, no necessary underdrain pipe. Perforated pipe shall be wrapped with 1/4" cloth.
Perforated pipe concrete (if required)	NFPA No. 3, 1/2" x 3/4" x 3/4" (28' x 36' x 36')	28 day strength and slump test, all concrete design (cast-in-place or pre-cast) using previously approved mix of sand. Minimum required design strength and approved by a professional structural engineer licensed in the State of Maryland. Design to include meeting ACI 308.2R-99; vertical loading (24" x 24" x 24") ultimate horizontal loading (dead or wet) (see notes); and analysis of potential cracks.
Soil	ASTM M-6 or ASTM C-13	1/2" to 3/4" diameter

OWNER
TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
410-480-0262

DEVELOPER/BUILDER
THE WOODS OF TIBER BRANCH, LLC
C/O TRINITY QUALITY HOMES
3675 PARK AVE., SUITE 301
ELLICOTT CITY, MD 21043
410-480-0023

2	REVISE GRADING LOT 31 AND 32	12/4/17
1	REVISE GRADING LOT 30	11/9/17
NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
SWM DRAINAGE AREA MAP,
SWM NOTES AND DETAILS
THE WOODS OF TIBER BRANCH
PHASE I, PART II
LOTS 30-32

PARCEL: 255
TAX MAP: 24. GRD: 18
2ND ELECTION DISTRICT

ZONED: R-ED
USE: RESIDENTIAL
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHV
DRAWN BY: JMR/KG
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.D. NO.: 16-11

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10188, EXPIRATION DATE: 08-27-2018

5 SHEET OF 6

